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SOME NEW PARASITES, WITH REMARKS ON THE GENUS PLATYGASTER (HYMENOPTERA).

By R. M. FOURS.

This paper contains descriptions of eight new species of Hymenoptera, from the United States, belonging to the superfamilies Serphidoidea and Mutilloidea. With the exception of a few paratypes, retained by the author, all of the type material is in the collection of the United States National Museum at Washington, D. C.

Superfamily SERPHIDOIDEA.

Family Diapriidae.

Trichopria parkeri, new species.

Differs from *flavipes* Ashmead, to which it is most closely allied in having the antennal club 5-jointed instead of 4-jointed.

Female.—Length 1.5 mm. Body slender; head globose, broad and strongly convex behind the eyes, smooth and shining; length of head below slightly greater than the length above; antennae clavate; pedicel as long as but considerably larger than the third joint; fourth, fifth and sixth joints subequal in length and width, the seventh a little wider than any one of these but no longer; club 5-jointed, the first joint globose, slightly longer than wide, second considerably larger and slightly longer than the first, third larger and slightly longer than the second, fourth a little longer and wider than the third, very little shorter than the fifth which is conical and narrower than the fourth; thorax as long as the abdomen, shining and impunctate; prothorax woolly; mesonotum without furrows, separated from the axillae which meet on the median line, by a fine suture; scutellum transverse-quadrate, non-carinated, feebly convex, with a small and shallow fovea at its base; propodeum as long as the scutellum, covered with silvery hairs and with a conical or tooth-like prominence basally; wings brownish, extending beyond the apex of the abdomen, margined with long cilia; subcostal nervure extending one-fourth the length of the wing from the base to the apex, reaching the costal margin and terminating in a small, triangular stigma; legs stout, hairy; femora and tibiae strongly clavate, the latter curved and narrowed proximally; abdomen oval, pointed at the apex, shining and impunctate; petiole longer than wide, distinctly longer than the propodeum, densely covered with long silvery

hairs; second tergite oblong-oval, truncate, and higher at the base than the petiole, two-thirds the length of the entire abdomen; third and fourth tergites equally long, the third the widest; fifth tergite pointed, slightly transverse, with a brush of bristles at the apex, and a small, transverse fovea sub-apically. Black; antennae, except last four joints and half of the eighth, palpi, and legs brownish yellow; mandibles rufous; pubescence white.

Male.—Length 1.2 mm. Differs from the female in several minor particulars; the scutellar fovea is much deeper and wider; the propodeal projection is less prominent; the antennae are long, verticillate, and composed of fourteen joints; pedicel ovate, shorter, but wider than the third joint; third joint slender, pediculate at the base; fourth strongly curved, pediculate basally, its distal margin oblique and joined to the fifth at its inner apical angle; funicular joints 5–13 nodose, verticillate, pediculate basally, subequal in length and width; penultimate joint ovate, a little shorter than the twelfth, and a little shorter but distinctly larger than the fourteenth, which is slender and conical.

Type locality.—Williamsport, Maryland.

Type.—Cat. No. 22794, U. S. N. M.

Eleven specimens, ten females and one male, from Williamsport, Maryland, reared by Mr. H. L. Parker, October 7, 1916, from a Dipterous pupa, and recorded in the Bureau of Entomology under Accession No. 14554. Two paratypes retained by the author.

***Trichopria marylandica*, new species.**

Differs from all the forms at present described from North America in having the last four funicle joints broadly transverse and the penultimate joint of the club as long as the terminal joint of the antennae.

Female.—Length 1.25 mm. Head transverse, the very prominent frontal ridge causing it to appear globose; shining and impunctate; not very full behind the eyes, viewed from in front nearly circular, slightly pointed at the mouth; frontal ridge prominent, thin and transparent, pointed medially at the apex, the deep depression behind divided by a median carina; face below ledge flat and smooth; clypeus truncate apically, rounded posteriorly, the lateral angles sharp but inconspicuous; ocelli arranged in a low triangle, very distant from the eyes; vertex rounded; occiput margined; antennae stout, longer than the head and thorax combined; scape stout, extending beyond the ocelli, concave below, as long as the next five joints combined; pedicel cylindrical, a little longer than the third joint, longer than wide, slightly narrower than the scape; third antennal joint conical, as wide at the apex as the pedicel; fourth joint quadrate, a little shorter and narrower than the third, subequal to the fifth; sixth, seventh, and eighth funicle joints, wider,

broadly transverse, subtriangular; ninth as wide as the eighth, half as long as the first club joint; club 3-jointed, first as long as the pedicel but distinctly wider, nearly circular in outline; second oblong, longer than wide, as wide as the scape, as long and as wide as the last; last club joint ovate, bluntly pointed; thorax oblong, truncate anteriorly, narrower than the head, slightly shorter than the abdomen; pronotum rather prominent, bluntly angled laterally, without pubescence; mesonotum wider than long, rounded anteriorly, truncate posteriorly, polished and impunctate; notauli absent; scutellum circular, with a broad, shallow fovea at its base; pleura smooth, impunctate; propodeum short, a little longer than the scutellum, covered with silvery hairs only laterally, produced above into two broad, tongue-like plates which extend entirely over the first tergite, the space between them twice as long as wide, truncate anteriorly; wings hyaline, subcostal nervure extending only one-sixth of the length of the wings from the base; abdomen oblong, abruptly narrowed anteriorly and posteriorly; not quite twice as long as wide, feebly convex above; first tergite scarcely visible under the propodeal lamellae, transverse, covered with long silvery hairs; second tergite very large, as long or nearly as the entire thorax, smooth and impunctate, with a few short white hairs scattered over it and with a row of white hairs across it subapically; third, fourth, and fifth tergites subequal, much wider than long; last tergites triangular, bluntly pointed, as long as the fifth; ovipositor exerted, the sheath stout. Brown; head and abdomen fuscous, the legs yellowish.

Male.—Length 1 mm. Differs from the female principally in sexual characters. Antennae extending to the base of the abdomen, filiform and covered with short hairs; pedicel a little longer than wide, oblong; third antennal joint slightly wider than pedicel, as wide as the scape, conical; fourth as long as the third and the pedicel together, as thick as the scape, deeply emarginate below; fifth quadrate, as long as, but slightly wider than the sixth; joints 7-14 moniliform, slightly transverse; last joint a little longer than the preceding, obconical; tongue-shaped processes of propodeum shorter than in the female, reaching only to the middle of the first segment of the abdomen; abdomen as long as the thorax, truncate apically; head and thorax darker than in the female.

Type locality.—Hagerstown, Maryland.

Type.—Cat. No. 22795, U. S. N. M.

Described from four specimens, three females and one male, reared by Mr. H. L. Parker, July 31, 1915, from a dipterous pupa, and recorded in the Bureau of Entomology under Accession No. 12003. One paratype retained by the author.

The allotype presents a rather curious aberration in that the antennae differ from one another. In the normal antenna, joints seven and eight are separated as usual, but in the other, joints seven and eight are united and only partially divided by a lateral incision. It should also be mentioned that this is the first species

to be described from North America having the peculiar process on the propodeum.

Family Scelionidae.

Hadronotus parkeri, new species.

Runs in Brues' key to the species of *Hadronotus* (Bull. Wisc. Nat. Hist. Soc., vol. 8, No. 1, p. 47, 1910) to *largi* Ashmead, but differs from that species in its darker coloration. The scape in *largi* is entirely yellow, in *parkeri*, yellow only basally.

Female.—Length 0.8 to 1 mm. Head transverse, slightly wider than the thorax but not as wide as the abdomen, excavated behind, the vertex subacute; face finely striate, margined above, with a short, triangular projection extending over and between the base of the antennae; antennae 12-jointed; scape as long as club but not as thick, curved outwardly; pedicel as long as the next two joints united and inconspicuously thicker; third joint of the same width as the next two, and as long as wide; fourth, fifth, and sixth antennal joints transverse, subequal in length and in width and all shorter than the third; club 6-jointed; first club joint broadly transverse, wider than the preceding funicle joints, button-shaped; second distinctly longer and wider than the first; third of the same width as the next two, a little wider than the second; fourth and fifth equal in length and width, as wide as the third but a little longer; last joint as long as club joints one and two combined, conical; thorax rounded, much shorter than the abdomen, shagreened, covered with short, recumbent white hairs; pronotum visible as a line from above; mesonotum without furrows, shagreened; scutellum broadly transverse, semicircular, the apical edge impunctate and separated off by a row of punctures; postscutellum with a short triangular projection; propodeum with an anterior transverse carina curving downward medially and laterally, prominent at the angles but fading away in the middle; abdomen as long as the head and thorax together, broadly oval, not much longer than wide; first tergite over three times as wide as long, longitudinally striate, margined anteriorly by a prominent curved carina; second tergite one-fourth longer than the first, longitudinally striate on basal three-fourths and shagreened apically; third tergite half as long as the second, and the next three shagreened; wings tinged with fuscous. Black; legs, except all coxae, trochanters, and femora of front legs, brownish yellow; antennae piceous brown, the antennal bulb, base of scape, and extreme apex of pedicel yellow; mandibles yellow.

Male.—Length 0.85 mm. Differs from the female in the structure of the antennae. Antennae filiform, pedicel as long as last joint of antennae, conical, rounded distally, as wide as the fourth joint; third joint oval, a little thicker and shorter than the pedicel; fourth joint a little longer than wide, about as long as third; fifth joint broadly transverse, much wider than the third but no longer than the fourth; joints 6–11 transverse-quadrate,

subequal, as wide but a little longer than joint five; last joint as wide as the penultimate, obconical.

Type locality.—Hagerstown, Maryland.

Type.—Cat. No. 22796, U. S. N. M.

Described from seven females and one male reared by Mr. H. L. Parker, September 15, 1916, from Heteropterous eggs, and recorded in the Bureau of Entomology under Accession No. 14410. Two paratypes retained by the author.

Trissolcus edessae, new species.

Differs from *brachymenae* Ashmead in its greater size, more slender body, and the coarser sculpture of the face. It may be distinguished from the rest of the described species from North America, with the exception of *rufiscapus* Ashmead, from which it differs in the sculpture of the scutellum, by its entirely yellow scape.

Female.—Length 1.75 mm. Head very little wider than the thorax, broadly transverse; face shagreened, covered on the sides with great scattered punctures, with a short truncate projection extending over the bases of the antennae; cheeks uniformly roughly shagreened; scape as long as the club, curved; pedicel as long as the third joint, longer than the fourth and fifth united, and twice as long as wide; fourth and fifth antennal joints broadly transverse; sixth joint forming part of the club, broadly transverse; thorax circular as seen from above; mesonotum roughly shagreened, with notauli distinct for nearly one-half its length and with a delicate median carina, which although very faint anteriorly, extends its entire length; scutellum shining, impunctate; mesopleura impunctate, smooth and shining; abdomen oval, slightly pointed posteriorly; first tergite shining, about four times as wide as long, traversed longitudinally by deep striae; second tergite impunctate, shining, very shortly striated basally; third a little shorter than fourth and fifth united, the latter two equal in length; sixth broadly triangular, as long as the fifth; tergites 3-6 shagreened, with a row of punctures across them; sixth faintly shagreened but without a distinct row of punctures across it; wings hyaline, extending beyond the apex of the abdomen. Black; first six joints of the antennae and all of legs except coxae, yellow; mandibles very faintly tinged with red at their apices; nervures pale yellow.

Type locality.—New Orleans, Louisiana.

Type.—Cat. No. 22797, U. S. N. M.

Seven specimens, all females, from New Orleans, Louisiana, reared by Mr. C. E. Smith, July 23, 1919, from the eggs of *Edessa bifida* Say, and recorded in the Bureau of Entomology under Chittenden No. 6065⁹¹. One paratype retained by the author.

Paridris brevipennis, new species.

Differs from *laeviceps* Ashmead in having the body lighter colored and the wings shorter than the abdomen.

Female.—Length 2 mm. Head transverse-quadrate, broad and convex behind the eyes, slightly wider than high as viewed from the front, excavated behind, shagreened, except lower part of cheeks, middle of face just above the insertion of the antennae, and a space just above each mandible, the former two areas polished, impunctate, the latter striate, the striae converging toward the base of the mandible; lateral ocelli equidistant from eye-margin and anterior ocellus; occiput margined; cheeks immargined; clypeus transversely linear, broadly and shallowly emarginate apically, the lateral angles sharp, dentiform; mandibles large, strong, bidentate, the upper tooth the longer; base of antennae partially covered by a curved plate; antennae 12-jointed; scape slightly longer than the club and nearly as wide, not noticeably curved; pedicel conical, a little shorter than, but just as wide as the first funicle joint, less than twice as long as wide at its apex; first funicle joint as long as joints two and three united, of the same width as the second; second funicle joint as long as the next two united, globose, a little longer than wide; third and fourth funicle joints small, transverse, subequal in length and width; club cylindrical, composed of six joints, the first subtriangular and transverse; second a little wider; third twice as wide as long and a little longer than the second; fourth of the same length and width as second; fifth as long as third but a little narrower; sixth slightly the longest, obconical, rounded apically; thorax obovate, rounded in front, at the tegulae as wide as the head; mesonotum shagreened; notuli distinct only basally; anterior half of episternum, sternum, and posterior border of pronotum strongly punctate; posterior half of episternum and epimeron polished and impunctate; scutellum twice as wide as long, separated from the mesonotum by a row of deep punctures and with a free apical edge separated off by a row of punctures; postscutellum extending over the propodeum in the form of a plate, three times as wide as long and one-third the length of the scutellum, margined apically, with regular longitudinal striae placed about twice their width apart; propodeum hollowed out, to receive the abdominal horn, the lateral edges sharp, forming a shelf over the rest of the propodeum; lateral face with a smooth, impunctate area; area just above hind coxae rugose; abdomen longer than head and thorax united, broad, spatulate, but rather sharply pointed apically; first tergite longer than wide, striato-punctate, the horn as high as the postscutellum when the abdomen is extended; second tergite about as long as the first, strongly longitudinally striate, its sides oblique, the apical edge one-third longer than the anterior; third tergite slightly wider than long, distinctly longer than the second, its sides parallel, shagreened subapically and sublaterally, and covered sparsely with white hairs, the rest of the surface smooth, impunctate; fourth tergite two and one-half times as wide as long, nearly as long as the two following, sparsely punctate, and covered with long white hairs as are also the two following

tergites; fifth tergite two-thirds the length of the fourth and more coarsely punctate than the fourth, nearly three times wider than long; sixth tergite obtusely pointed, shagreened, half as long as the fourth; first sternite rugose and hairy; second strongly longitudinally striate, not hairy, third smooth, impunctate, sparsely covered with whitish hairs, fourth and fifth punctate, hairy, sixth shagreened, as hairy as the two preceding segments; wings hyaline, covered with cilia. Black; base of scape, mandibles, and legs, rufous; apex of scape, pedicel, and last tarsal joints fuscous.

Male.—Length 2 mm. Differs very little from female except in sexual characters. The antennae are 12-jointed, filiform; pedicel small, about three-fourths the length of the first funicle joint and of almost the same width; first and third funicle joints of equal length and width but the latter incised basally, seeming to appear curved, these two joints the thickest and longest in the flagellum with the exception of the terminal one, which is as long but narrower; flagellar joints 4–10 subequal, cylindrical, hairy, the last obconic, as long as the third.

Type locality.—Brookings, South Dakota.

Other localities.—Capa, South Dakota.

Type.—Cat. No. 22798, U. S. N. M.

Described from one female and two males reared by Mr. Severin, from the eggs of *Gryllus abbreviatus* Serville. The type and paratype are from Brookings, South Dakota; the allotype, from Capa, South Dakota. The latter bears the label "June 5, 1919."

Family Platygasteridae.

Genus *Platygaster* Latreille.

Platygaster Latreille, Gen. Crust. et Ins., Vol. 4, 1809, p. 31.

Polygnotus Foerster, Hym. Stud., II, 1856, p. 108.

Coelopelta Ashmead, Bull. 45, U. S. Nat. Mus., 1893, p. 289.

Hypocampsis (Foerster) Ashmead, loc. cit., p. 298.

Polymecus (Foerster) Ashmead (in part), loc. cit., p. 277.

Synopeas (Foerster) Ashmead (in part), loc. cit., p. 285.

Anopedias (Foerster) Ashmead (in part), loc. cit., p. 290.

Ashmead in his "Monograph of the North American Proctotrypidae," has apparently exactly transposed the definition of the two genera *Platygaster* and *Polygnotus* as defined by Foerster. Species placed by him in *Platygaster* are those having a distinct sculpture, well developed parapsidal grooves, and a rather thick head, and are similar in every way to *striolatus* Nees, type of the genus *Polygnotus*. Ashmead's species of *Polygnotus*, on the other hand, are those in which the sculpture is weak or indistinct, the parapsidal grooves poorly developed or absent, and the head

usually more transverse. These are the characters assigned to *Platygaster* by Foerster. No specimens of *Platygaster ruficornis* Latreille, type of the genus *Platygaster*, have been seen by the writer but it seems certain that Ashmead's species of *Polygnotus* are typical *Platygaster*. Certainly they are if Foerster's interpretation of Latreille's genus is correct.

The genus *Platygaster* as limited by Foerster is, in the opinion of the writer, too narrow and excludes many forms which cannot properly be placed in any other genus. All of the characters given by Foerster for separation of *Platygaster* and *Polygnotus* are purely relative. Study of a large amount of material in the National collection shows that there is such a perfect intergradation of all these characters that no line can be drawn which will satisfactorily separate the two genera. Typical forms of the two groups are not difficult to recognize, but in the American fauna there are a large number of intermediate forms, which may as well be placed in one group as the other. The writer is, therefore, of the opinion that the two genera should be synonymized.

The genus *Coelopelta* Ashmead, having as type the West Indian species *mirabilis* Ashmead, is founded upon a single imperfect specimen in which the scutellum is caved in from above, giving it a cupuliform appearance. It is true *Platygaster* belonging to the group in which the head is thin antero-posteriorly and the sculpture indistinct.

The writer would also place in *Platygaster* those species having the scutellum unarmed which were included by Ashmead in the genus *Polymecus*. Except in the more or less elongate abdomen these species do not differ from typical *Platygasters*, and since there are all degrees of elongation of the abdomen, the character is unreliable and impracticable for generic separation.

Certain other species described by Ashmead in the genera *Synopeas*, *Hypocampsis*, and *Anopedias* respectively, are in the writer's opinion, wrongly placed and belong in *Platygaster*.

Besides the species of *Polygnotus* and *Coelopelta* described by Ashmead, the following species should be transferred to *Platygaster*:

<i>Polymecus canadensis</i> Ashmead.	<i>Polymecus melliscapus</i> Ashmead.
<i>Polymecus americanus</i> Ashmead.	<i>Polymecus compressiventris</i> Ashmead.
<i>Polymecus pallipes</i> Ashmead.	<i>Polymecus alnicola</i> Ashmead.
<i>Polymecus nigrifemur</i> Ashmead.	<i>Synopeas antennariae</i> Ashmead.
<i>Polymecus vancouverensis</i> Ashmead.	<i>Synopeas melanoceras</i> Ashmead.
<i>Polymecus lupinicola</i> Ashmead.	<i>Anopedias pentatomus</i> Ashmead.
<i>Polymecus picipes</i> Ashmead.	<i>Hypocampsis pluto</i> Ashmead.

The genus *Platygaster* as limited by the writer may be separated from the other genera of Platygasteridae by the following description:

Head broadly transverse to subquadrate; face with a truncate or emarginate projection between the antennae; lateral ocelli remote from the eye margin; mandibles bidentate, the teeth approximately equal; antennae in female clavate, gradually increasing in thickness toward tip, the third joint shorter and narrower than the fourth; antennae in the male filiform; fourth antennal joint as long as or longer than the pedicel, not connate with the third which is shorter and usually narrower than the fourth; thorax short to moderately elongate, the notauli either absent, incomplete, or complete; scutellum convex, more or less transverse or semicircular, unarmed, and either margined or immargined laterally; propodeum short, with two parallel, median, longitudinally elevated carinae; wings pubescent, ciliate at the margins; abdomen in female as short as the thorax to several times as long as the head and thorax together, but always depressed, never compressed; abdomen in male about as long as the thorax; second tergite in both sexes with two more or less distinct basal foveae.

Platygaster leguminicolae, new species.

This species runs to *virginiensis* in Ashmead's table to the species of *Polygnotus* (Monogr. Proctotrypidae, Bull. 45, U. S. N. M., 1893, p. 301), but differs from that species in the sculpture of the fourth tergite in the female and the color of the legs in the male. *P. leguminicolae* has the fourth tergite in the female strongly longitudinally striate, and the middle and posterior legs in the male black; while *P. virginiensis* has the fourth tergite traversed by a row of punctures and the male with lighter colored legs.

Female.—Length 1.5 mm. Head as wide as the thorax, broadly transverse; vertex transversely striate, not produced over the eyes; cheeks very finely striate; face shining, striate all over, but more coarsely so below, the striae converging to an indistinct longitudinal impression in the middle of the face; scape about as long as next four articles, curved and aciculate; club fusiformly developed, composed of five articles not well differentiated; pedicel of the same length as and a little wider than the next two articles; third joint small, two-thirds as long as and a little narrower than joint four which is subequal in length and width to joint five; sixth joint subconical, longer and larger than the fifth; joints seven, eight, and nine oblong, subequal, the last slightly longer and narrower, obconical; thorax ovoid, polished; notauli distinct on basal half of mesonotum; middle lobe of mesonotum advanced close to the scutellum; propodeum bare, carina widely divided; legs black to brownish black; apices of anterior tibiae yellow; all the tarsi lighter colored than the other parts of the legs; abdomen broad and long, about as

wide as and longer than the thorax; first tergite longitudinally striate above, pubescent; second tergite with two striated foveae at the base, otherwise not sculptured, shining; third tergite a little shorter than the fourth, both impunctate but with a row of hairs across them; fifth tergite slightly longer than fourth, *longitudinally striate*; sixth as long as fifth, shining, not striate. Wings infuscated.

Male.—Essentially the same as the female but with the following differences: Flagellum filiform, hairy; joints 5-9 subequal in length and width, a little longer than wide; fourth joint twice as long as third, emarginate at base; abdomen broadly elliptical; third and fourth tergites subequal in length, the sixth about half as long as either and a little narrower than the fifth; all the tergites beyond the second with a transverse row of punctures.

Type locality.—Forest Grove, Oregon.

Type.—Cat. No. 22799, U. S. N. M.

Twenty females and nine males reared August 28, 1916, from the clover seed midge (*Dasyneura leguminicola* Lintner) by G. W. Creel and recorded in the Bureau of Entomology under Webster No. 15000 and Forest Grove No. 16-38K. Nine paratypes retained by the author.

Platygaster feltii, new species.

This species is most closely allied to *alnicola* Ashmead and *tumidus* Ashmead. From the former it may be distinguished by the presence of a broad transverse furrow on the first tergite, and from the latter by the very faint striation on the vertex.

Female.—Length 1.2 mm. Head seen from above broadly transverse, one and one-half times as wide as long as viewed from in front, smooth and shining, impunctate, finely striate on the vertex; lateral ocellar line equal to the ocellular; antennae, when extended, reaching beyond the apex of the thorax, not distinctly clubbed; pedicel as long as next two joints and a little wider than the fourth, twice as wide as long; third joint slightly longer than wide, shorter and narrower than the fourth; fourth joint as long as sixth though considerably narrower, distinctly longer but no wider than the fifth; seventh, eighth, and ninth joints subequal in length and width, a little longer than wide; last joint longer, subconical, obtusely pointed; thorax smooth, polished, impunctate; mesonotum faintly shagreened on the anterior half; notauli incomplete, traversing the basal half of the mesonotum; scutellum high, convex, nearly perpendicular anteriorly, sloping posteriorly; wings extending slightly beyond the apex of the abdomen; abdomen ovate-spatulate, as wide and as long as the thorax, narrowing gradually anteriorly; first tergite longitudinally coarsely striate, with a transverse impression across the middle and elevated anteriorly, less than twice as wide as long; second tergite longer than wide, with a slightly elevated rim across its base and with two

longitudinal, striated foveae at its base on either side, the striae extending laterally to the middle of the segment; striae at the base of the second tergite between the foveae short but as deep as those on the first segment; posterior half of second tergite and remaining segments smooth, neither striate nor punctured. Black; extreme base of scape, apex of front tibiae on the inside, and tarsi, yellowish; mandibles reddish brown; flagellum brown; wings slightly infuscated, more distinctly so toward their apices.

One female paratype has the striations on the vertex slightly coarser, indicating that this character is probably of doubtful efficacy in separating the species of this difficult genus. The notauli are also subject to variation, as regards their depth and length; in some specimens they are deep to the middle of the mesonotum, in others they are very faintly indicated and do not extend quite to the middle of the mesonotum.

Male.—Length 1 mm. Pedicel one and one-half times as long as wide, broadly elliptical, as long and as wide as the fourth joint; the latter emarginate basally and acute as its outer apical angle; third joint button-shaped, less than half as long as the pedicel, as wide and a little more than half as long as the fifth joint; fifth joint transverse; slightly narrower than the sixth; joints 6–10 a little longer than wide, the last a little longer but less than twice as long as wide, ovate, acute at tip; wings extending a little beyond the tip of the abdomen; abdomen as long as the thorax.

Type locality.—Austin, Texas.

Type.—Cat. No. 22800, U. S. N. M.

Nine specimens, seven females and two males from Austin, Texas, reared by Dr. E. P. Felt, March 19, 1919, from the gall of *Walshomyia texana* Felt on cedar. A male and a female paratype retained by the author.

Superfamily MUTILLOIDEA.

Family Bethyloidea.

Cephalonomia kiefferi, new species.

Differs from *nubilipennis* Ashmead and *utahensis* Brues in having the wings hyaline, not infuscated. From *hyalinipennis* Ashmead it differs in having the head shorter, the space from the summit of the eyes to the top of the head being shorter than the length of the eyes.

Female.—Length 2 mm. Body shining, the sculpture indistinct; head slightly longer than wide, rounded in front, more or less truncate behind, shagreened, nearly devoid of hairs; face feebly convex, shagreened, but with a few scattered punctures; eyes oval, their length slightly exceeding the distance from their upper margin to the top of the head; antennae a little

longer than the head; pedicel as long as the two following joints united; last joint about as long as the two preceding united, a little over twice as long as wide, pointed at tip; thorax in the middle as wide as the head, narrowed anteriorly and more or less truncate posteriorly; pronotum as long as the propodeum, moderately convex, finely shagreened, longer than the length of the mesonotum and scutellum combined; mesonotum a little over twice as wide as long, nearly flat, shagreened; scutellum nearly flat, shagreened, with a curved cross-furrow at its base; propodeum shagreened, flat above, sharp laterally and angulate on each side before the apex; nearly perpendicularly declivous behind and with a longitudinal median carina which extends to, but not upon, the posterior face; anterior face of propodeum quadrate, posterior face a little wider than high; wings hyaline; prostigma nearly twice as wide as the parastigma; abdomen depressed, rather egg-shaped, broader than and about as long as the thorax, narrowed gradually posteriorly to the last segment which is triangular and much narrower than the preceding, not sharply pointed posteriorly. Black; mandibles, palpi, anterior tibiae, and all tarsi, yellow; antennae, except basal three-fourths of scape, middle and posterior tibiae, brownish yellow; tegulae, femora, base of scape, and abdomen dark brown.

Male.—Length 1.5 mm. Differs from the female principally in sexual characters. Antennae longer than the thorax; pedicel wider than either, but distinctly shorter than the two following joints together; joints beyond the fourth slightly less than twice as long as wide; last joint a little over three times as long as wide, slightly shorter than the two preceding united, pointed apically; antennae fuscous, much darker than in the female; head and pronotum reddish brown; abdomen shorter than the thorax.

Type locality.—Wellington, Kansas.

Type.—Cat. No. 22801, U. S. N. M.

Described from five specimens, one female and four males, bred by Mr. E. G. Kelly from *Calandra oryzae* Linné. One paratype kept by the author. One male paratype has the antennae and mouthparts mounted on a slide; the rest of the head is lost.

COLLECTING SOME LITTLE KNOWN BUPRESTIDAE (COLEOPT.).

BY H. E. BURKE, *Bureau of Entomology.*

Little known Buprestidae, like other "rare" insects, usually can be found in numbers if the seeker knows when and where to find them. Unlike many other insects, however, the majority of the Buprestidae spend most of their life under the bark or in the wood of trees and even where they are common it often means

patient seeking and hard work to get them. Some of the following species are considered the rarest of the American Buprestidae, yet specimens can be obtained almost every year if the seeker is willing to spend some time and hard work in the effort. To tell how, when and where to get specimens of these species is the object of this paper.

Trachykele Mars.

Taking the genus as a whole, the species of *Trachykele* are considered as little known as any American Buprestidae. There are four named species, one southeastern and three western, and one apparently good unnamed one from the west. The beetles of all of the species transform from the pupae in the fall and remain in the pupal cells in the wood until spring before emerging. For this reason collecting from the wood will produce results over a much longer period than collecting by beating or chance collecting on the foliage or wood.

T. lecontei Gory. This southeastern species has been taken in the bald cypress (*Taxodium distichum*) from Virginia to Louisiana. Blazes or other scars on the trunks of standing trees appear to be the best places to obtain it. Chop away the outer wood any time from early fall until late spring and the beetles should be found in the pupal cells beneath. Dr. A. D. Hopkins cut some specimens from the wood of drift logs on the ocean beach at Virginia Beach, Va.

The three named western species are found within a distance of five miles in some localities in the Sierras of California. One such locality is Strawberry on the Lincoln Highway in El Dorado County.

T. blondeli Mars. This species, the type of the genus, has been found in a number of localities and hosts. At Strawberry it occurs in the western juniper (*Juniperus occidentalis*) at an elevation of from 5700 to 8000 ft. Many of the larvae after mining up and down in the wood of the trunks of small trees while feeding go into the branches to pupate. In fact this habit was so common that the writer had the best success collecting by trimming off all of the branches of about $\frac{1}{2}$ to 1 inch in diameter from the lower part of the trees. If a large mine was found in the center of a branch the branch was followed up until the beetle was found, which usually was within from $\frac{1}{2}$ an inch to 1 foot.

The typical form of *blondeli* and several variations have been found in the San Francisco Bay region in the wood of the Monterey cypress (*Cupressus macrocarpa*) and the Sargent cypress (*C. sargentii*). In the Sargent cypress groves on Cypress Ridge near San Geronimo, Marin County, golden or coppery margined